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THE SIXTH TECHNOLOGICAL WAY AND INNOVATIONS

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Recently the powerful push to discussion of the future of Russia was given by Malinetsky G.G. Nam's reports it is represented interesting to inform to participants of conference some conclusions and ideas of this research.

From times of industrial revolution of 18 centuries the world community has passed through 4 technological ways. Some foreign countries live now in a postindustrial society, using 5-6 technological ways while Russia lives in industrial economy where technologies of 3-4 ways prevail, characteristic for the middle of the last century. 4 technological way: mass production; cars; planes; heavy mechanical engineering; the big chemistry. 5 technological way: computers; telecommunications; electronics; the Internet. 6 technological way: biotechnologies; nanotechnology; designing of the live; an investment in the person; new wildlife management; a robotics; new medicine; high humanitarian technologies; designing of the future and management of it; technologies of assemblage and destruction of social subjects.

Experts of the United Nations consider, that Russia can not create innovative economy yet. From 100 basic directions of a science on 17 Russia still keeps leadership, and on 22 will be able to return it for 5-7 years. At the Hanover exhibition in 2005. Biometric world analogue biometric and aviation systems, filters for water, microchips on a basis nanotechnology, a basalt fibre for release of easy, heat resisting both eternal pipes and other unique technologies have been presented.

On developments of human potential Russia does not concede to the developed countries on level of literacy of the population and number of experts with higher education. The Russian business - the most intellectual in the world: 80 % have higher education, 40 % of large businessmen - a scientific degree. The youth became new - which agrees only interesting work with the worthy salary and comfortable working conditions and lives.

Innovative system - the organizational-economic competitive mechanism with the corresponding infrastructure, focusing the scientific organisations on achievement of commercial and social effect of workings out, the industrial organisations of manufacture, work and management on the basis of use of these workings out, and authorities and a civil society - on development of mass innovative activity.

Subjects of innovative system are the commercial and noncommercial state, public and infrastructural organisations, investment banks and funds, technoparks, tehniko - inculating zones, venture, leasing, information-marketing, computer centres.

In industrial market economy innovative systems were created at corporate level. For example, Phillips at the beginning of the 19th centuries. Invited to work to his electrotechnical company the graduates of university and his company has become the world leader. There are a lot of negative experiences commercial scientific of workings out in Russia. R. N. Yablochkov and Edison have created electrical engineering, but the American has founded corporation, has involved investments that has allowed to construct power station and an electric main. Popov has published the scheme of a radio receiver and the transmitter earlier, than Marconi, but the Italian has patented the invention, has favourably sold the patent of the company created by it, has found a commodity market on the British ships, has founded affiliated firms on a radio communication and equipment manufacture in the USA.

In Soviet time effective administratively - planned innovative system operated in Outward Industrial Complex, however in the ninetieth during conversion many hi-tech complexes were

are destroyed. It is necessary to create new branches: bio- and nano- information technologies; reconstructing the pharmaceutical and biomedical industry, inhaling a new life in nuclear and power mechanical engineering, defensive war - an industrial complex. In this work of state corporation - the basic points of growth of qualitatively new economy of the future, are capable to provide transition to 5-6 technological ways and are capable to dominate in the international competition.

At the present stage of development of a society the surprising phenomenon is observed: the future becomes an object of designing. Effective decisions in economic, military, technological spheres, in the field of the international relations radically depend on that, how much well we represent the world, technologies and a person in 20-30 years. For the first time of centuries-old history the mankind has a possibility of a real social, technological, ecological choice. And, of course, the most grandiose and impressing project is a future designing, a choice of the historical trajectory.

At the heart of some futurological researches lay N.D. Kondratyev's theory on which at the heart of economic development change of technological ways lays, Crises, wars, changes of parties and a power, styles in art, fashions and research programs are defined by cycles of technological development. There is a natural cycle of development of macrotechnology: 1) development of fundamental science, ideas which can receive a practical embodiment, a professional training, organisation of skilled-designing workings during 10-15 years; 2) creation of technologies, fast carrying out of creating, manufacture and the beginning of realisation of the appeared possibilities during 10-15 years; 3) diffusion of the appeared innovations in all technosphere and economic system during 10-15 years, total 30-35 years.

For example, development of possibilities of the 4th technological way was a basis of the Soviet industrialisation, of the forced industrial development. The possibilities were given by the 5th technological way (connected with the development of computers, chemistry of small, telecommunications and the Internet), have been missed by our country. Now all world is preparing for technological bound, it will occur in 2014-2018. Locomotive branches of 6 technological ways, will become biotechnology, nanotechnology, a robototechnic, high humanitarian technologies, the new medicine, wildlife management. The future of Russia now depends on the effective and over actions in this sphere..

What nanotechnology can essentially change our reality and open doors into future? Big technological shifts are often not connected not with an economic gain, and with the decision of essential problems of life of the society. For example, the decision of some problems-it is transition to «the transparent world»:

- 1) microadditives and microlabels will allow practically all commodity streams to the country can be made "transparent";
- 2) microgauges and geoinformation systems do "transparent" all traffic;
- 3) systems of continuous monitoring of a human body and fixing of everything, that he sees, feels, individual decoding reveal do "transparent" the populations health.

At the first stage in the development of nanotechnology the main place occupy nanomaterials with their surprising properties and prospects grasping spirit. The following stage - an era of nanoorganization which move, co-operate with environment and with each other, solve difficult tasks.

President Vladimir V. Putin, 21 May 2006 approved the list of critical technologies of the Russian Federation "of 34 technologies. Among which are the two that are relevant to our work of high school: «Technologies for creating energy-efficient transportation systems, distribution and consumption of heat and electricity,» «the environmentally sound resource-saving production and processing of agricultural commodities and food products» Each of us showing interest in new technologies may use them in their practical work and contribute to the preservation and development of Russia. GG Malinetskii claims that «alter-

native to accelerate innovative development of the country can only be its decay. If we are not reversing the current trend, the ruts of which slides the Russian Federation, we have nothing to save. Russia can not even be a raw materials appendage of the developed world»